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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,461	07/11/2005	Shigeru Sugaya	SONYJP 3.3-1048	8945

530 7590 04/28/2009

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EXAMINER	
CASCA, FRED A	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
04/28/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/506,461	SUGAYA, SHIGERU	
	Examiner	Art Unit	
	FRED A. CASCA	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 15-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to applicant's amendment filed on February 02, 2009. Claims 1-13 and 15-25 are still pending in the present application. **This Action is made FINAL.**

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1-5 and 11-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claim 1 has been amended to contain new matter. The phrase "scan period for scanning for a beacon" added to independent claims 1 has not been found in the specification.

Further, independent claim 11 has been amended to contain new matter. The phrase "managing means for managing a timing of receiving ssaid beacon signal and timing of the reception slot; and performing scan processing for continuous reception over a time of said predetermined frame period and receiving a beacon signal of another wireless communication apparatus in the neighborhood" added to independent claim 11 has not been found in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karaoguz (US 2002/0159544 A1) in view of Watanabe (US Pub. No. 2006/0044436 A1) and further in view of Durand (US 7340612).

Referring to claim 1, Karaoguz discloses a wireless communication apparatus communicating with another wireless communication apparatus in an autonomous distributed network without a designated control station apparatus (Fig. 1 and par. 5 and 7, "Ad hoc"), said wireless communication apparatus comprising frame period setting means for setting a predetermined frame period for each wireless communication apparatus (par. 40, "settings for received frames"); data slot setting means for setting slots serving as data transmission units (par. 63, "time slots"); and reception slot setting means for setting at least one reception slot for receiving a signal in said predetermined frame period (par. 63, "slots", note that slots are used. Thus, signals are transmitted and also received in slots which implies that slots have been set for receiving).

Karaoguz does not specifically disclose scan period setting means for setting a scan period longer than said predetermined frame period.

Watanabe discloses that a scan period and frame period can be varied (Fig. 6 and paragraph 58, "1H represents one horizontal scan period, and 1V represents one frame period").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the apparatus of Karaoguz by incorporating the teachings of Watanabe, for the purpose of providing flexibility in assigning scanning time, thus efficient use of communication resources.

The above combination does not specifically disclose scanning for a beacon.

Durand discloses the concept of scanning for a beacon (col. 4, lines 10-35, "looks for a beacon").

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the above combination, for the purpose of providing an efficient communication system.

Referring to claim 2, the combo of Karaoguz/Watanabe/Durand discloses the wireless communication apparatus as set forth in claim 1, further comprising transmitting means for transmitting a beacon signal to another wireless communication apparatus at a predetermined timing of said predetermined frame period (par. 64, "beacon is transmitted"), wherein the beacon signal has information about a timing (inherent as signals are synchronized) of the reception slot set by said reception slot setting means; and receiving means for receiving a signal transmitted by said another wireless communication apparatus (par. 64).

Referring to claim 3, the combo of Karaoguz/Watanabe/Durand discloses the wireless communication apparatus as set forth in claim 2, wherein said receiving means receives the

signal at a timing of the reception slot set by said reception slot setting means (Fig. 4B-4C and par. 63-64).

Referring to claim 4, the combo of Karaoguz/Watanabe/Durand discloses the wireless communication apparatus as set forth in claim 1, further comprising beacon transmitting means for transmitting a beacon signal at a timing of a head of the predetermined frame period (Fig. 4B-4C and par. 63-64).

Referring to claim 5, the combo of Karaoguz/Watanabe/Durand discloses the wireless Communication apparatus as set forth in claim 1, further comprising data transmitting means for transmitting data to another wireless communication apparatus (Fig. 1), storage means for storing timings of reception slots of other wireless communication apparatuses (par. 7, "synchronization"), and control means for making said data transmitting means transmit data at a timing of a reception slot of said another wireless communication apparatus when there is transmission data to be sent to the other wireless communication apparatus (Fig. 1 and 4A-4C and par. 7, 63-64 and).

Claims 11-13 recite features analogous to features of claims 1-3, thus they are rejected for the same reasons made in the rejection of claims 1-3.

6. Claims 6, 9, 10 and 15-18 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karaoguz (US 2002/0159544 A1) in view of Watanabe (US Pub. No. 2006/0044436 A1).

Referring to claim 6, Karaoguz discloses a wireless communication apparatus for communicating with another wireless communication apparatus in an autonomous distributed network without a designated control station apparatus (Fig. 1 and par. 5 and 7, "Ad hoc"),

said wireless communication apparatus comprising frame period setting means for setting a predetermined frame period by for each communication apparatus(par. 40, "settings for received frames"); data slot setting means for setting slots serving as data transmission units (par. 63, "time slots"); scanning means for receiving a beacon signal transmitted from another wireless communication apparatus over a time of said predetermined frame period (Fig. 1 and 4A-4C, note that scanning for beacon signals is inherent in wireless communication).

Karaoguz does not specifically disclose scan period setting means for setting a scan period longer than said predetermined frame period.

Watanabe discloses that a scan period and frame period can be varied (Fig. 6 and paragraph 58, "1H represents one horizontal scan period, and 1V represents one frame period").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the apparatus of Karaoguz by incorporating the teachings of Watanabe, for the purpose of providing flexibility in assigning scanning time, thus efficient use of communication resources.

Referring to claim 9, the combination of Karaoguz/Watanabe disclose the wireless communication apparatus as set forth in claim 6, and further disclose beacon transmitting timing control means for controlling a timing of transmission of its own beacon so as not to collide with the beacon of the other wireless communication apparatus, wherein the scanning means receives

a beacon from another wireless communication apparatus (Fig. 1 and 4A-4B and their corresponding discussions).

Referring to claim 10, the combination of Karaoguz/Watanabe discloses the wireless communication apparatus as set forth in claim 6, and further disclose transmitting means for transmitting a beacon signal at a predetermined timing of the frame period, wherein the beacon signal has information relating to a beacon transmitting slot transmitted from another wireless communication apparatus obtained by said scanning means (Fig. 1 and 4A-7C and their corresponding discussions).

Referring to claim 15, claim 15 defines a wireless communication method reciting features analogous to the features of the apparatus of claim 6, thus it is rejected for the same reasons used in the rejection of claim 6.

Referring to claim 16, the combination of Karaoguz/Watanabe discloses the wireless communication method as set forth in claim 15, further comprising transmitting a beacon signal that has information about the a timing of the set reception slot and informing its presence to another wireless communication apparatus located in the neighborhood (Fig. 4A-4C, and par. 63-64).

Referring to claim 17, the combination of Karaoguz/Watanabe discloses the wireless communication method as set forth in claim 15, further comprising having a wireless communication apparatus that engages in reception processing at a timing of said set reception slot and receives data transmitted from another wireless communication apparatus (Fig. 1 and 4B-4C).

Claim 18 recites features analogous to the features of claim 4. Thus, Karaoguz discloses all elements of claim 4.

Referring to claims 19 and 22, claims 19 and 22 defines a wireless communication method reciting features analogous to the features of the system of claim 6, thus the combination of Karaoguz/Watanabe discloses all elements of claim 19 and 22 (please see the rejection of claim 6 above).

Referring to claim 20, the combination of Karaoguz/Watanabe discloses the wireless communication method as set forth in claim 19, and further discloses a step of managing a timing of the reception of the beacon signal transmitted from said other wireless communication apparatus and a timing of the reception slot (Fig. 1 and 4B-4C and par. 7).

Referring to claim 21, the combination of Karaoguz/Watanabe discloses the wireless communication method of claim 19 and further disclose storing a timing of a beacon signal from another Wireless communication apparatus located in the neighborhood and a timing of the reception slot and engaging in a transmitting operation at a timing of the reception slot of the another communication apparatus when there is data destined for the another wireless communication apparatus (Karaoguz, Fig. 1-4C, and par. 7).

Referring to claim 23, the combination of Karaoguz/Watanabe discloses the wireless communication method of claim 22 and further disclose receiving a beacon signal of another wireless communication apparatus located in the neighborhood, managing a timing of the reception of said beacon signal and a timing of the reception slot (Fig. 1-4C), and transmitting a

signal at the timing of the reception slot of the corresponding wireless communication apparatus when communicating directed to the another wireless communication apparatus (Par. 7-8 and 63-64 and Fig. 1-4C).

Referring to claim 24, the combination of Karaoguz/Watanabe disclose the wireless communication method of claim 22 and further disclose the step of receiving a beacon from another wireless communication apparatus by said scanning processing and controlling a timing of transmission of its own beacon so as not to collide with the beacon of the other wireless communication apparatus (Par. 7-8 and 63-64 and Fig. 1-4C).

Referring to claim 25, the combination of Karaoguz/Watanabe disclose the wireless communication method of claim 22 and further disclose the step of transmitting a beacon signal at a predetermined timing of the predetermined frame period, wherein the beacon signal has information relating to a beacon transmitting slot transmitted from another wireless communication apparatus obtained by said scanning processing (Par. 7-8 and 63-64 and Fig. 1-4C).

7. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karaoguz (US 2002/0159544 A1) in view of Watanabe (US Pub. No. 2006/0044436 A1) and further in view of well known prior art (MPEP 2144.03).

Referring to claim 7, the combination of Karaoguz/Watanabe discloses the wireless communication apparatus as set forth in claim 6, further comprising transmitting means for transmitting a signal at the timing of the reception slot of the corresponding wireless

communication apparatus when there is data directed to another wireless communication apparatus (Fig. 1A, and col. 5, lines 20-45, "communications between nodes of different islands").

The combination does not disclose managing means for converting a timing of said received beacon signal and a timing of the reception slot into its own slot positions and managing same.

The examiner takes official notice of the fact that converting a timing of a received beacon signal and a timing of the reception slot into its own slot positions and managing same is well known in the art particularly in dynamic slot allocation schemes.

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the combination for the purpose of providing allocating resources efficiently.

Referring to claim 8, the combination of Karaoguz/Watanabe and Well-known art disclose the wireless communication apparatus as set forth in claim 7 and further disclose control means for making transmitting means transmit a signal at the timing of the reception slot of the corresponding wireless communication apparatus when there is data directed to the other wireless communication apparatus, the scanning means obtaining the timing of the beacon signal and the timing of the reception slot from said other wireless communication apparatus (Fig. 1A-7B and their corresponding discussions).

Response to Arguments

8. Applicant's arguments with respect to claims 1-25 have been considered but they are not persuasive.

In response to arguments that Watanabe is not relevant with respect to the claimed invention, the examiner asserts that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). Further in response to arguments that Watanabe does not specifically disclose scan period for a scanning for a beacon signal, it is noted that the features upon which the applicant relies (e.g., scanning for a beacon) are not cited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. *See in re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).* The scanning for a beacon was added to the claims in the amendment of 02/02/2009, and reference Durant was used by examiner to overcome the specific limitation.

Conclusion

9. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper, can be reached at (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/VINCENT P. HARPER/

Supervisory Patent Examiner, Art Unit 2617